

MAGNETIC SEPARATORS

INTRODUCTION

Magnetic Separators are used extensively throughout most Industries to remove ferrous contamination from process lines.

Contamination can enter your system with each delivery of raw materials, it can be caused by stray nails from packing cases, nuts and bolts vibrating loose, wear from moving parts, broken blades, scale and rust from pipes and surrounding steelwork.

The list is endless... as is the damage it can cause once it enters your system.

Modern Magnetic Separators use Neodymium Iron Boron magnets which emit intense and ferocious magnetic fields, capable of attracting and securing even minute ferrous particles. If used properly they retain this level of magnetism indefinitely without any power source... running costs are virtually zero.

Magnetic Separators should always be used at critical stages of the process to protect vulnerable machinery from damage and are often placed before a metal detector to ensure minimal product loss.

Separators should be used in the most effective places, for example iron filings are easily removed from flour but impossible to remove from a finished cake..Separators are not magic and their position in the process will directly influence their level of efficiency...

There are many different types of Magnetic Separator and each one has been specifically customised to make it superior in performance for a certain type of application...

This booklet aims to unravel the mysteries of Magnetic Separation and to provide an invaluable reference guide to selecting the best Magnetic Separator for your application.

There are two distinct categories of Magnetic Separator and it is important to understand their differences...

FIXED MAGNET SEPARATORS

These are designed to attract ferrous contamination and to trap it until it can be periodically cleaned away.

These Separators are used where the contamination levels are usually relatively low.

They are used to protect sensitive process equipment from damage and also to ensure the quality of the finished product.

Examples of Fixed Magnet Separators:

Grid magnets
Strip magnets
Plate magnets

MOVING MAGNET SEPARATORS

These Separators have moving parts and continually separate ferrous contamination from non ferrous product.

They are continually self cleaning and are used where contamination levels are relatively high.

If a Magnetic grid was used in a similar application it would need cleaning too frequently to be practicable.

Examples of Moving Magnet Separators:

Drum magnets
Overband magnets
Head pulley magnets

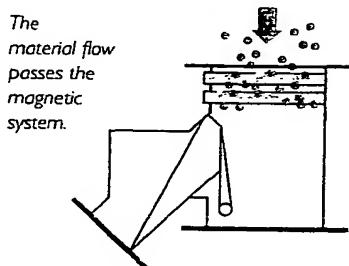
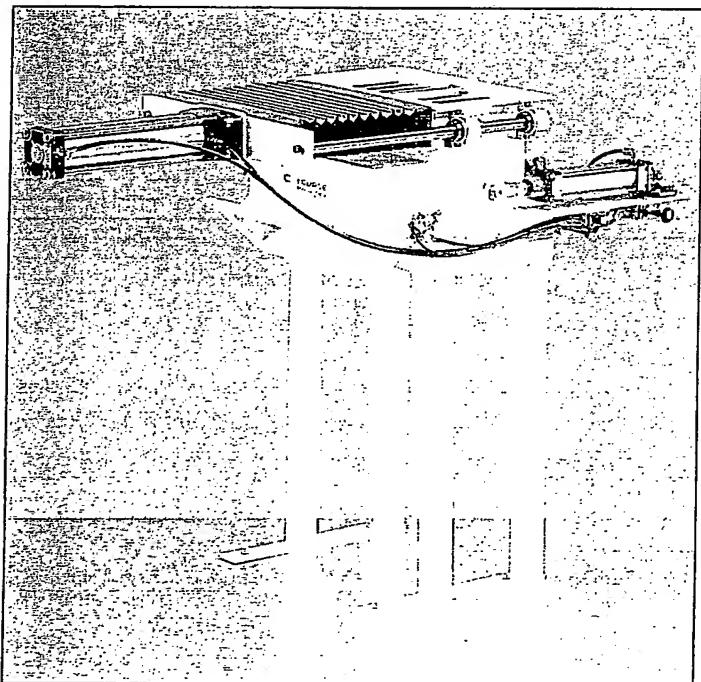
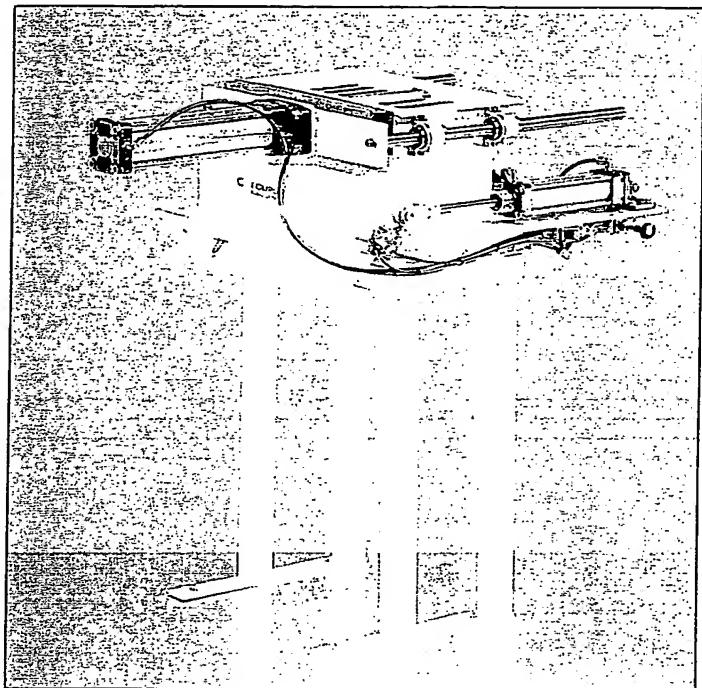
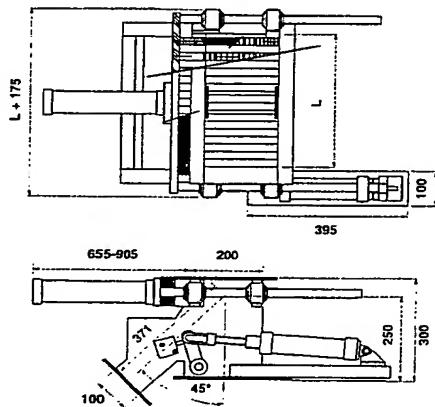
AUTOMATICALLY CLEANED PERMANENT MAGNET GRIDS

The compact dimensions of these self cleaning grid magnets enable them to be built into virtually any (existing) duct or pipeline system. The powerful magnetic field ensures a thorough removal of all types of ferrous contamination. The collected iron particles can be released from the stainless steel tubes of the grid at the touch of a button or from a plc signal.

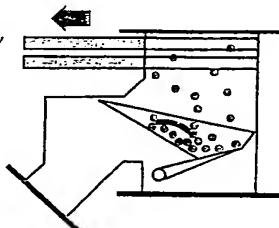
The system is particularly easy to maintain since the components which are most subject to wear can be easily replaced. These flexible systems can be switched either electrically or pneumatically and as a result are ideally suited for use in automated systems.

The automatic permanent magnet grids are available with a choice of ceramic or Neodymium magnets.

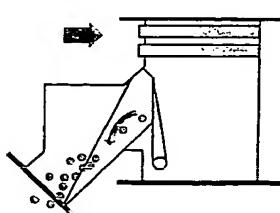
Cat. Number	Cat. Number	Length (mm)
Ceramic Version	Neodymium Version	
EM45301/Cer	EM45301/Nd	200
EM45302/Cer	EM45302/Nd	400
EM45303/Cer	EM45303/Nd	600
EM45304/Cer	EM45304/Nd	800

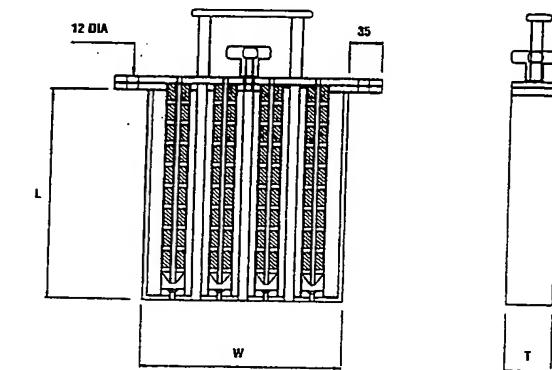
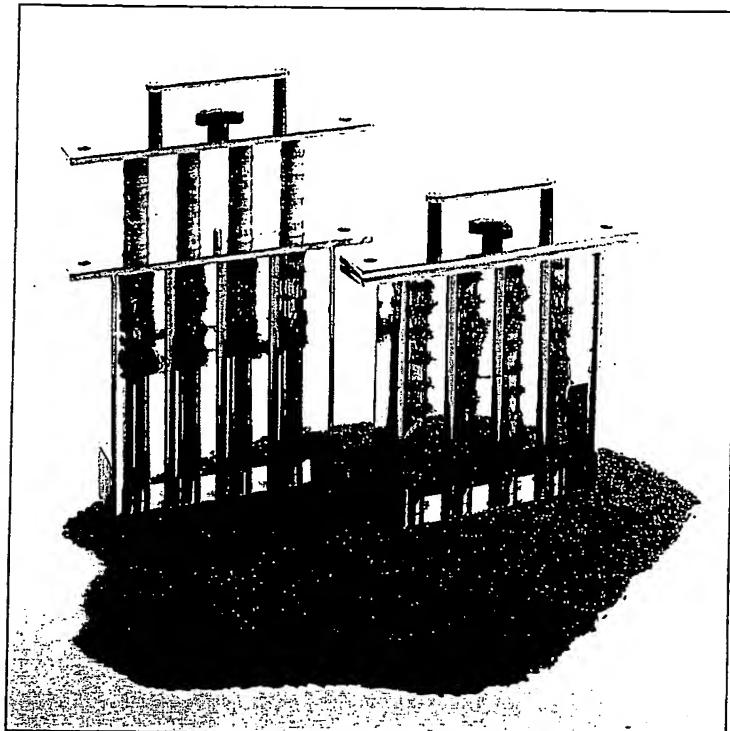


The material flow passes the magnetic system. To remove the contamination the material flow is stopped and the magnets are withdrawn from the tubes.



The magnets are replaced in the tubes, after which the iron contamination is discharged by the valve.





These ingenious grid magnets were designed to provide fast cleaning.

The magnet cartridge is withdrawn from the polished stainless steel tube assembly and the contamination then simply falls away.

The magnet cartridge is then replaced and the grid is ready for use again.

Cleaning takes approximately 15 seconds.

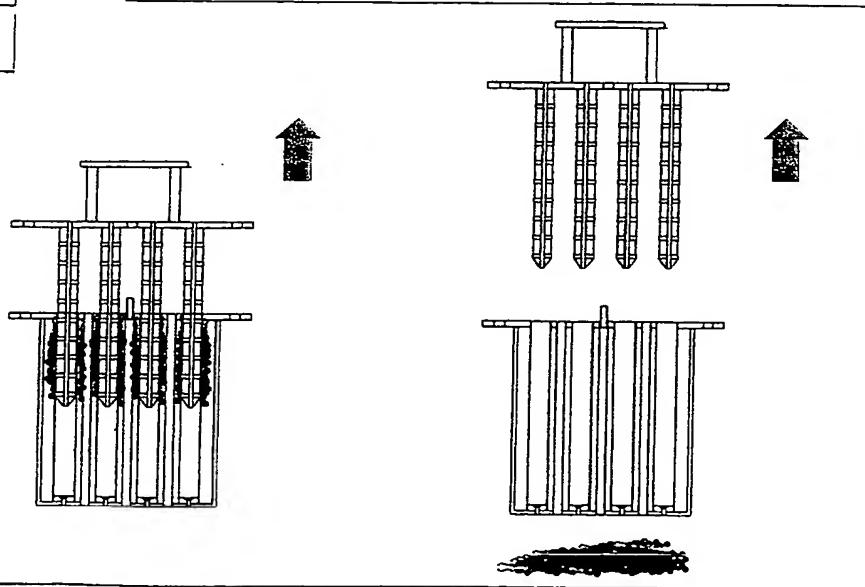
The magnets provide 5500 Gauss on the tube surface.

Example Grid:

EM45604/400 : 300 wide
400 long

Tailor made housings are available for these grids
- ask for details.

Cat. Number	Width (mm)	Thickness (mm)	Number of tubes	Length (mm)
EM45600	100	50	2	100 - 500
EM45601	150	50	3	100 - 500
EM45602	200	50	4	100 - 500
EM45603	250	50	5	100 - 500
EM45604	300	50	6	100 - 500
EM45605	350	50	7	100 - 500
EM45606	400	50	8	100 - 500
EM45607	450	50	9	100 - 500
EM45608	500	50	10	100 - 500
EM45609	600	50	12	100 - 500



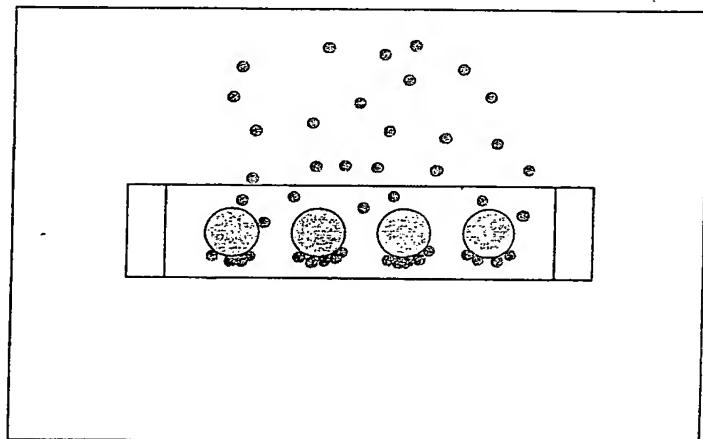
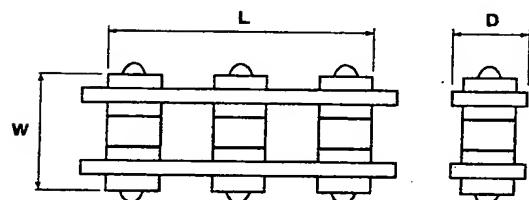
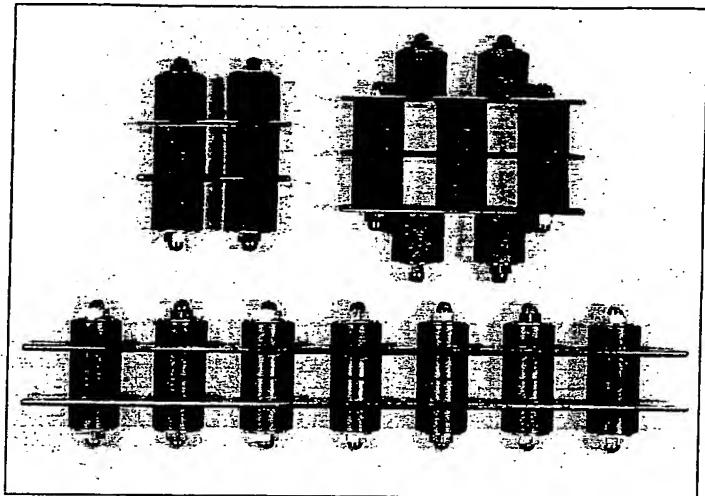
GRID MAGNETS LOW GUARDS

These very low cost magnets are ideal protection for hoppers feeding plastic granules into injection moulding machines.

These are available in a range of sizes to suit most applications.

They are constructed from ferrite magnets and chrome plated steel pole pieces.

They are not suitable for food applications.



Cat. Number	Width (mm)	Length (mm)	Depth (mm)	Cat. Number	Diameter (mm)	Depth (mm)
EM45701	100	140	36	EM45709	200	36
EM45702	100	175	36	EM45710	250	36
EM45703	200	200	36	EM45711	300	36
EM45704	250	250	36	EM45712	350	36
EM45705	300	300	36	EM45713	400	36
EM45706	350	350	36			
EM45707	400	400	36			
EM45708	450	450	36			